

STRAIN-CONTROLLED III-NITRIDE LIGHT EMITTING DEVICE

ABSTRACT OF THE DISCLOSURE

In a III-nitride light emitting device, a ternary or quaternary light emitting layer is configured to control the degree of phase separation. In some embodiments, the difference between the InN composition at any point in the light emitting layer and the average InN composition in the light emitting layer is less than 20%. In some embodiments, control of phase separation is accomplished by controlling the ratio of the lattice constant in a relaxed, free standing layer having the same composition as the light emitting layer to the lattice constant in a base region. For example, the ratio may be between about 1 and about 1.01.